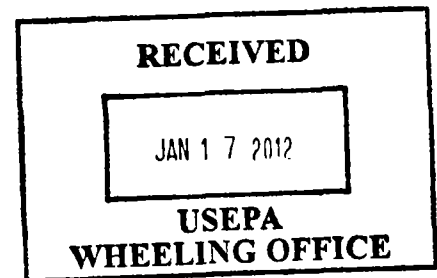

Southpointe Energy Complex • 370 Southpointe Boulevard, Suite 100 • Canonsburg, Pennsylvania 15317
kkomoroski@fulbright.com • Direct: 724 416 0420 • Main: 724 416 0400 • Facsimile: 724 416 0404

January 12, 2012

VIA FED EX

U.S. Environmental Protection Agency
Region III
Oil and Prevention Branch (3HS61)
1060 Chapline Street
Wheeling, WV 26003

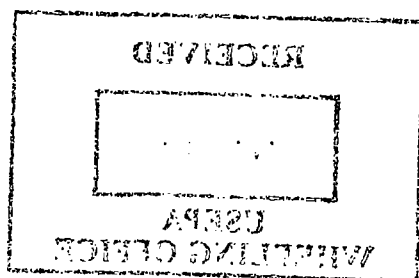


Dear Sir/Madam:

We are in receipt of a letter dated December 1, 2011 from Karen Melvin, Associate Division Director, Office of Enforcement, Hazardous Site Cleanup Division, United States Environmental Protection Agency ("EPA"). The letter was directed to the attention of Ms. Carla Suszkowski at Range Resources - Appalachia LLC ("Range"). Please be informed that Ms. Suszkowski is no longer employed by Range and all future correspondence should be directed to Ralph Tijerina. Mr Tijerina's contact information is included below:

Ralph Tijerina
Vice President - Health, Safety, and Environmental
Range Resources - Appalachia, LLC
3000 Town Center Blvd.
Canonsburg, PA 15317

EPA's letter expresses that it received notification that Range discharged oil and/or hazardous substances in quantities that may be harmful in violation of Section 311(b)(3) of the Federal Water Pollution Control Act from a facility located at or near Farrar School Road, Hopewell Township, Washington County, Pennsylvania. Range did not discharge oil and/or hazardous substances in violation of Section 311(b)(3) of the Federal Water Pollution Control Act. On October 31, 2011, contractors were installing a pipeline in the area of inquiry. An employee of one of the contractors attempted to move an aboveground temporary water pipeline using a backhoe. The temporary water pipeline was not being used at the time, but contained a mixture of fresh and recycled water that was previously being pumped between impoundments for use in natural gas development hydraulic fracturing activities. An estimated 400 barrels (17,000 gallons) of fresh/recycled water was released from the temporary pipe when a joint failed as a result of the contractor employee's actions. An unknown amount of this water entered Dunkle Run. No damage to aquatic life was observed in Dunkle Run and stream sampling confirmed



January 12, 2012

Page 2

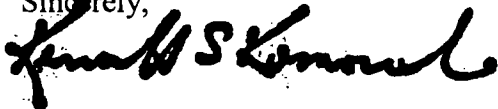
there was no impact. In support of this, please allow me to direct your attention to in-stream analytical results (attached) that indicate chloride levels of approximately 17 ppm after the incident. (Chlorides are present in recycled water at concentrations that are orders of magnitude greater than other constituents and thus are the best indicator of the extent of potential impact of releases of water)

The Pennsylvania Department of Environmental Protection and the Pennsylvania Fish and Boat Commission were notified immediately after the incident occurred and representatives of both agencies visited the location. Additional training was implemented to inform contract workers and to prevent future incidents such as this. The soils impacted by the release were excavated and removed for proper disposal.

Because Range did not discharge oil and/or hazardous substances in violation of Section 311(b)(3) of the Federal Water Pollution Control Act, it is not required to respond to the December 1, 2011 letter. In the letter, EPA indicates it is also considering whether the facility is in compliance with the Spill Prevention, Control and Countermeasures (SPCC) Regulations found at Title 40 CFR Part 112. Range does not believe that the incident area is subject to SPCC regulations. Thus, the attached response is provided for information purposes only and is not otherwise required.

Please let me know if you have additional questions. While Range attempts to work cooperatively with regulatory officials, Range respectfully reserves its rights to assert that any future inquiries or actions in respect of this incident are unlawful or beyond the EPA's authority.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth S. Komoroski", written over a horizontal line.

Kenneth S. Komoroski

KSK/blc

cc: James Van Orden, Esq. (EPA)
Karen Melvin (EPA)
Paula Curtin (EPA)
(above via e-mail and Fed Ex)

The December 1, 2011 request for information (the "Request") of the United States Environmental Protection Agency ("EPA") seeks to obtain information regarding an alleged discharge by Range Resources-Appalachia, LLC ("Range") of oil and/or hazardous substances in quantities that may be harmful in violation of Section 311(b)(3) of the Federal Water Pollution Control Act at or near Farrar School Road in Hopewell Township, Washington County, Pennsylvania on October 31, 2011. There was no discharge by Range of oil and/or hazardous substances in violation of Section 311(b)(3) of the Federal Water Pollution Control Act at or near Farrar School Road in Hopewell Township, Washington County, Pennsylvania. On that date, at approximately 9:20 a.m., a temporary aboveground water pipeline from the Kearns Impoundment to the Bednarski Impoundment failed at a joint when a contractor attempted to move it, resulting in the release of a mixture of fresh and recycled water. Range believes this is the event to which EPA is referring to in its Request.

The Request was issued under the auspices of obtaining information regarding a possible violation of Section 311(b)(3) of the Federal Water Pollution Control Act, 33 U.S.C. § 1321(b)(3). Section 311(b)(3) prohibits discharges of hazardous substances in excess of quantities as provided by 40 C.F.R. § 117.3. Range did not discharge oil and/or hazardous substances in violation of Section 311(b)(3) of the Federal Water Pollution Control Act. Thus, EPA's Request is without legal basis under the identified statutory or regulatory authority. Notwithstanding the lack of legal authority for the Request, Range voluntarily provides the following information. Also, to the extent the Request seeks information not specifically pertaining to this incident, such information requests are both beyond the EPA's investigatory authority as provided by 33 U.S.C. § 1321(b)(3) and 40 C.F.R. § 117.3 and unreasonable under the circumstances.¹

Furthermore, Range does not believe that the incident area is a "Facility" or that EPA has the authority to require this response. Information is voluntarily provided below. EPA should not consider or interpret this voluntary response and information as an admission or agreement of any obligation on the part of Range to provide any such information, notwithstanding it is included below as a "response" to each question included in EPA's letter.

RESPONSES

1. Identify all substances released from the Facility in connection with the above referenced Regional Response Center Spill Number or Numbers. Specifically, identify:
 - (a) The name and Chemical Abstract Services ("CAS") Number for each substance discharged;
 - (b) For oils, identify the type and grade;

¹ Range further reserves the right to object to any Request for any reason not expressly set forth herein, including, but not limited to, as seeking irrelevant information, as seeking privileged documents or information, as overly broad and unduly burdensome, and as seeking expert opinions and/or legal conclusions.

- (c) Provide the quantity, concentration of each substance discharged and the method by which the concentration was measured or estimated. For mixtures, provide the name, quantity, and concentration of each constituent of that mixture;
- (d) Provide the solubility and specific gravity of each substance discharged; and
- (e) Provide all sample analysis and/or reports related to the incident.

Response: On October 31, 2011, contractors were installing a pipeline. An employee for one of the contractors attempted to move an aboveground temporary water pipeline using a backhoe. The temporary water pipeline was not being used at the time, but contained a mixture of fresh and recycled water that was previously being pumped between impoundments for use in natural gas development hydraulic fracturing activities. An estimated 400 barrels (17,000 gallons) of water were released from the pipe when a joint failed as a result of the contractor employee's actions. An unknown amount of this water entered Dunkle Run. Attached at Tab 1 are analytical results from sampling of water in the Kearns Impoundment on October 12, 2011. As the water that was discharged on October 31, 2011 originated in the Kearns Impoundment, the results attached at Tab 1 are informative. Also attached, at Tab 2, is an e-mail description of the incident provided to the Pennsylvania Department of Environmental Protection ("DEP") on October 31, 2011.

Trenches were immediately dug to collect the water and to attempt to prevent it from reaching Dunkle Run. The water in the trenches was removed using a vacuum truck. Attached at Tabs 3 through 5 are analytical results of sampling conducted (a) upstream of where the water entered Dunkle Run, (b) at the location of where the water entered Dunkle Run, and (c) downstream of where the water entered Dunkle Run, respectively.

Potentially impacted soils were removed from the site. Attached at Tab 6 is an

e-mail message from Weavertown Environmental Group ("Weavertown") to Range providing preliminary results of post-excavation sampling at the location of the release of water. Later, Range arranged to excavate stream bank soils as part of its construction of a permitted stream crossing in early 2012.

2. Describe the physical source (including, but not limited to vehicle, outfall, tank, container, pipe, ditch, conduit, or equipment) at the Facility from which the oil and/or hazardous substance or substances (the term "substance" as used here includes both oils and hazardous substances) initially was discharged on or around 10/31/11. If the substance was discharged from more than one source, please identify each specific source. Describe the purpose of the physical source as well as any connections to other parts of the facility.

Response: On October 31, 2011, contractors were installing a pipeline. An employee for one of the contractors attempted to move an existing aboveground temporary water pipeline using a backhoe. The temporary water pipeline was not being used at the time, but contained a mixture of fresh and recycled water that was previously being pumped between impoundments for use in natural gas development hydraulic fracturing activities. An estimated 400 barrels (17,000 gallons) of water were released from the pipe when a joint failed as a result of the contractor employee's actions. An unknown amount of this water entered Dunkle Run.

3. Provide the total quantity of undiluted substance(s) released from the Facility onto the ground and to an [sic] body of water. Report this information in gallons for oils and in pounds for hazardous substances.

Response: Please see Response to Question 1, above.

4. List the location of the discharge, including the closest street address, the city, county, state, zip code, and provide the Global Positioning System ("GPS") coordinates.

Response: The incident occurred near Farrar School Road in Hopewell Township, Washington County. The approximate Global Position System coordinates for the location of the release of water are 4012 57.4 latitude, 8024 49.7 longitude.

5. List the starting time, date, and duration of the discharge and the time and date when the discharge entered a waterway.

Response: The release of water occurred at approximately 9:20 a.m. on October 31, 2011.

6. List the time and date of the discovery of the discharge and the person(s) who made the discovery.

Response: The release of water was observed immediately, at approximately 9:20 a.m. on October 31, 2011, by employees of Casper Colosimo.

7. List the federal and state agencies, if any, to which the owner and/or operator reported the discharge(s), the dates and times on which the reports were made, and the name(s) and title(s) of the person(s) who made the reports.

Response: Range notified Bryon Miller of DEP immediately on October 31, 2011. Later the same day, Jeremy Matinko, then an E&S Supervisor for Range, provided an e-mail report of the incident to both Bryon Miller and Vince Yantko of DEP. Discussions with the Pennsylvania Fish and Boat Commission (Sean Sauserman), notified by DEP, also occurred on October 31, 2011.

8. Identify the first body of water that the substance reached. Identify the actual or estimated quantity of the substance(s) that entered that water body. Describe the location of any other water bodies that the substance(s) subsequently entered, including the actual or approximate distance from the Facility. In addition, state the actual or estimated quantity of the substance(s) that entered those additional water bodies.

Response: Some amount of the water entered Dunkle Run in Hopewell Township, Washington County, approximately 150 feet from a pipeline. It is unknown how much water reached Dunkle Run. However, analytical results (especially chloride content) indicate minimal water reached Dunkle Run. Additionally, Range, DEP, and Fish and Boat Commission personnel walked the stream and observed no aquatic life impact in the stream.

9. Identify whether each water identified in response to Question 8 was, at the time of the spill, a "navigable water" as defined in *Enclosure J*, a tributary of navigable water; and/or physically connected to navigable water. Identify all such navigable waters by name and identify the type of body of water (e.g. river, stream, lake, creek, or other type of body of water).

Response: Dunkle Run is a tributary of Brush Run.

10. If no navigable waters are identified in response to Question 9, identify whether the water system at any time connects with or flows into any hydrological system (such as a creek system). If so, identify the flow, extent, and duration of the connection to that system.

Response: Please see Responses to Questions 8 and 9, above.

11. Provide a description and the location of any adjoining shoreline upon which that substance may have reached. In addition, state the quantity of the substance that reached the adjoining shoreline.

Response: Some amount of water reached the stream bank adjoining Dunkle Run.

12. For all discharges of oil to navigable waters, adjoining shorelines to navigable waters, or to any other water/shoreline, please indicate the following:
- (a) Did you observe from the oil a film, sheen, discoloration or iridescent appearance on the surface or shoreline of any water? If yes, please describe your observations;
 - (b) Did, to your knowledge, any other person observe from the oil a film, sheen, discoloration or iridescent appearance on the surface or shoreline of any water? If yes, please identify all such persons and describe those observations;
 - (c) Did you observe any oil sludge or oil emulsion beneath the surface or on the adjoining shorelines of any water? If yes, please describe your observations; and
 - (d) Did, to your knowledge, any other person observe any oil sludge or oil emulsion to be deposited beneath the surface or on the adjoining shorelines of any water? If yes, please identify all such persons and describe those observations.

Response: Not applicable as there was no discharge of oil

13. Describe any damage to animal life or vegetation that you observed or otherwise have knowledge of.

Response: There were no impacts to the aquatic life in the stream and no damage to animal life or vegetation was observed.

14. List the name, address, telephone number, and affiliation of any and all persons who made any observations in response to Questions 13.

Response: Please see Response to Question 13, above.

15. Provide a complete description of the cause or causes of the discharge (e.g., pump failure, by-pass of treatment system), as well as any other relevant circumstances. If the discharge was caused by the actions of a third party (for instance, as the result of an accident or vandalism), describe in detail the measures that were in place to prevent such actions. For vandalism, identify any enforcement agencies to which the owner or operator reported the vandalism.

Response: On October 31, 2011, contractors were installing a pipeline. An employee for one of the contractors attempted to move an aboveground temporary water pipeline using a backhoe. The temporary water pipeline was not being used at the time, but contained a mixture of fresh and recycled water that was previously being pumped between impoundments for use in natural gas development hydraulic fracturing activities. The contractor employee's actions which resulted in the release of water were taken without Range's knowledge or approval and were in contravention of Range's policies and instructions.

16. Describe all steps taken to contain and cleanup the spill(s) and to mitigate any environmental damage and/or threat to human health. Provide any remediation or after action reports that were generated.

Response: The water was partially contained in trenches and then removed from the trenches with a vacuum truck. Potentially impacted soils were excavated and removed within several days of the incident. Soil and water sampling results are attached at Tabs 3 to 6. In addition, a filter sock was placed on the stream banks and a boom in the stream to avoid impacts from soil excavation.

Following the incident, Range reiterated its instructions to contractors that temporary pipelines are not to be moved or otherwise handled without Range's instruction

and involvement. Additionally, Range revised its standard operating procedures to (1) require that all construction contractors working within 50 feet of a charged water pipeline be required to obtain a Safe Work Permit from Range prior to commencing work; (2) distribute to contractors written field level guidelines for work around charged water pipelines, and (3) require Range to periodically attend contractors' weekly safety meetings to reinforce awareness of the issues associated with handling a charged water pipeline.

17. Describe any actions taken or planned to prevent the recurrence of incidents such as the release(s) identified above.

Response: Please see Response to Question 16, above.

18. List the names, addresses, telephone numbers, and affiliations (*e.g.*, name of governmental agency, contractor, or other entity) of all persons who were on the scene during the incident and/or during cleanup operations, as well as any other persons not present but otherwise believed to have knowledge of the facts surrounding the incident or incidents. For each person identified in response to this question, provide the time period during which they were present at the facility. In responding to this question, for each complaint by an individual you have received related to your operations at the Facility, provide the person's name and phone number, as well as any written record of that complaint or a written narrative describing any oral complaint; Provide any subsequent communications with the party(ies) that filed the complaint.

Response: Jeremy Matinko (Range); Pete Miller (Range); Justin Welker (Range); Anthony Herman (Casper Colosimo); Jim Wetzell, Jr. (Casper Colosimo); Art Rust (Casper Colosimo); Bryon Miller (DEP); unknown personnel from Red Oak Water Transfer; unknown personnel from Weavertown Environmental Group; and Sean Sauserman (Pennsylvania Fish and Boat Commission).

19. Provide the name(s) and address(es) of the owner(s) of the Facility.

Response: Range is the owner and operator of the water pipeline. Range is located at 3000 Town Center Boulevard, Canonsburg, PA 15317. The work on the pipeline was performed by contractors.

20. Provide the name(s) and address(es) of the owner(s) of the property on which the spill occurred. Include names of lessees, those holding easements or other entities that have a legal right to the property.

Response: The property is owned by Jay Rush.

21. Provide the name and address of the operator(s) of the Facility described above, and describe the relationship between the owner(s) and operator(s) (*i.e.*, employee, subcontractor, lessee, etc.). Identify any persons who concurrently with you exercised actual control or who held significant authority to control activities at the Facility at any time. In answering this question, include:
- (a) Partners and/or joint ventures;
 - (b) All persons who exercised actual control over any activities or operations at the Facility;
 - (c) All persons who held significant authority to control any activities or operations at the Facility;
 - (d) All persons who had a significant presence or who conducted significant activities at the Site; and
 - (e) All government entities that had proprietary (as opposed to regulatory) interest or involvement with regard to the activity at the Facility.

Response: Please see Response to Question 19, above.

22. Identify any other leaks, spills, or releases of oil and/or hazardous substances into the environment that have occurred from the Facility. For each such release, provide the following:
- (a) date;
 - (b) duration of the release;
 - (c) substance(s) released;
 - (d) the approximate quantity of the substance(s) released;
 - (e) the origin of the release;
 - (f) the cause of the release;
 - (g) the location of the release;

- (h) any and all activities undertaken in response to each such release or threatened release, including the notification of any agencies or governmental units about the release;
- (i) The result of any and all investigations of the circumstances, nature, extent or location of the release or threatened release, including the results of any soil and water (ground and surface) testing undertaken;
- (j) Whether any persons were provided with an alternative water supply; and
- (k) All persons with information related to these releases.

Response: Range is not aware of reportable releases of oils and/or other hazardous substances from the pipeline and, because it is a water pipeline, Range would not expect any such releases.

23. Provide all reports, data or other information related to soil, water (ground and surface) and geology/hydro geology at and around the Site. Provide copies of all documents containing such data or information, including past and present aerial photographs as well as documents containing the basis for and/or analysis or interpretation of that data or other information.

Response: Please see Response to Question 1, above.

24. Provide any other reports, information or data related to this incident that you, your contractors or other Government agencies may have generated in connection with this incident

Response: Please see Response to Question 1, above. By way of further response, attached at Tab 7 is the report prepared by Casper Colosimo in connection with the release of water.

25. List any other information you wish to bring to the attention of the federal government at this time related to this matter.

Response: None.

Water Analysis Report

Production Company: **RANGE RESOURCES**
 Well Name: **KEARNS UNIT FRAC PIT**
 Sample Point: **Frac Pit**
 Sample Date: **10/12/2011**
 Sample ID: **WA-200144**

Sales Rep: **Brian Talik**
 Lab Tech: **Kimberly Niehenke**

Scaling potential predicted using ScaleSoftPitzer from
 Brine Chemistry Consortium (Rice University)

| Sample Specifics | | Analysis @ Properties in Sample Specifics | | | |
|-----------------------------------|------------|---|----------|---|----------|
| Test Date: | 10/12/2011 | Cations | | Anions | |
| | | mg/L | | mg/L | |
| System Temperature 1 (°F): | 300.00 | Sodium (Na): | 36111.72 | Chloride (Cl): | 70000.00 |
| System Pressure 1 (psig): | 3000.00 | Potassium (K): | 284.51 | Sulfate (SO ₄): | 40.00 |
| System Temperature 2 (°F): | 83.00 | Magnesium (Mg): | 886.16 | Bicarbonate (HCO ₃): | 61.00 |
| System Pressure 2 (psig): | 14.70 | Calcium (Ca): | 6072.39 | Carbonate (CO ₃): | 0.00 |
| Calculated Density (g/ml): | 1.07 | Strontium (Sr): | 860.48 | Acetic Acid (CH ₃ COO) | 0.00 |
| pH: | 5.99 | Barium (Ba): | 25.00 | Propionic Acid (C ₂ H ₅ COO) | 0.00 |
| Calculated TDS (mg/L): | 114404.69 | Iron (Fe): | 57.09 | Butanoic Acid (C ₃ H ₇ COO) | 0.00 |
| CO ₂ in Gas (%): | 0.00 | Zinc (Zn): | 0.00 | Isobutyric Acid ((CH ₃) ₂ CHCOO) | 0.00 |
| Dissolved CO ₂ (mg/L): | 99.00 | Lead (Pb): | 0.00 | Fluoride (F): | |
| H ₂ S in Gas (%): | | Ammonia NH ₃ : | | Bromine (Br): | |
| H ₂ S in Water (mg/L): | 0.00 | Manganese (Mn): | 6.34 | Silica (SiO ₂): | |

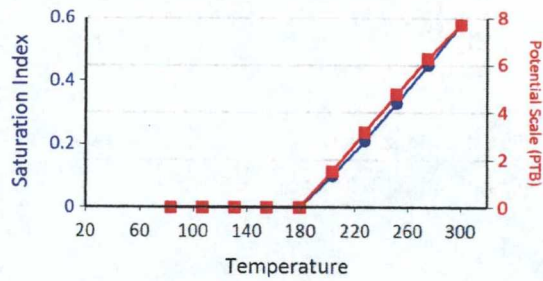
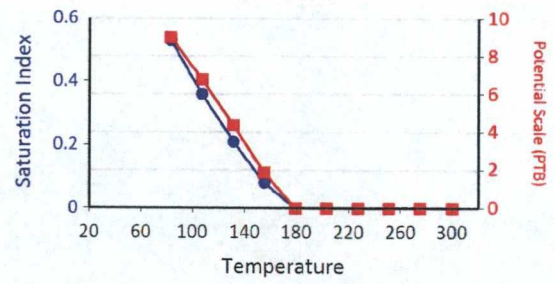
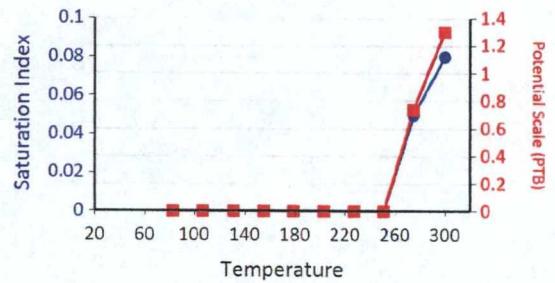
Notes:

Lead and Zinc were not tested, however a zero has been placed in these fields in order for the report to calculate.

(PTB = Pounds per Thousand Barrels)

| | | Calcium Carbonate | | Barium Sulfate | | Iron Sulfide | | Iron Carbonate | | Gypsum CaSO ₄ ·2H ₂ O | | Celestite SrSO ₄ | | Halite NaCl | | Zinc Sulfide | |
|-----------|------|-------------------|------|----------------|------|--------------|------|----------------|------|---|------|-----------------------------|------|-------------|------|--------------|------|
| Temp (°F) | PSI | SI | PTB | SI | PTB | SI | PTB | SI | PTB | SI | PTB | SI | PTB | SI | PTB | SI | PTB |
| 83 | 14 | 0.00 | 0.00 | 0.53 | 8.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 107 | 346 | 0.00 | 0.00 | 0.36 | 6.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 131 | 678 | 0.00 | 0.00 | 0.21 | 4.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 155 | 1009 | 0.00 | 0.00 | 0.08 | 1.87 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 179 | 1341 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 203 | 1673 | 0.10 | 1.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 227 | 2004 | 0.21 | 3.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 251 | 2336 | 0.33 | 4.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 275 | 2668 | 0.45 | 6.28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.74 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 300 | 3000 | 0.58 | 7.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 1.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | Hemihydrate CaSO ₄ ·0.5H ₂ O | | Anhydrate CaSO ₄ | | Calcium Fluoride | | Zinc Carbonate | | Lead Sulfide | | Mg Silicate | | Ca Mg Silicate | | Fe Silicate | |
|-----------|------|--|------|-----------------------------|------|------------------|------|----------------|------|--------------|------|-------------|------|----------------|------|-------------|------|
| Temp (°F) | PSI | SI | PTB | SI | PTB | SI | PTB | SI | PTB | SI | PTB | SI | PTB | SI | PTB | SI | PTB |
| 83 | 14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 107 | 346 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 131 | 678 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 155 | 1009 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 179 | 1341 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 203 | 1673 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 227 | 2004 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 251 | 2336 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 275 | 2668 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 300 | 3000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Calcium Carbonate**Barium Sulfate****Iron Carbonate**

From: Jeremy Matinko
Sent: Monday, October 31, 2011 3:47 PM
To: vyantko@state.pa.us; brymiller@state.pa.us
Cc: Carla Suszkowski
Subject: Range - Kearns to Bednarski - Refrac water release

Vince-

Farrar School Road - Hopewell Twp, Washington County

Around 09:20, this date, the above ground waterline from the Kearns Impoundment to the Bednarski Impoundment was compromised, resulting in the release of approximately 400 bbl of refrac water (flowback water blended with freshwater to be reused in future operations). A contractor working on a permanent pipeline installation to the attempted to move the above ground temporary pipe along Farrar School Rd that was charged (not actively flowing) with reuse water; the pipeline failed at a joint, and water was released. The line runs parallel to Dunkle Run, approx. 150 feet away. The released water entered Dunkle Run; however, no damage to aquatic life was observed in the stream. All ponded and collected water from the pasture was pumped out with a vac truck. Weavertown has probed the area to outline cleanup boundaries. The affected pasture area will be excavated and soil samples will be taken to confirm proper remediation. The line was recently pumped through, and is scheduled for use tomorrow. Line has been walked once per hour the entire time it has had water in it.

Bryon Miller was notified immediately and responded to the scene.



Report of Analysis

| | | |
|---|--|---|
| Name: Sample Start Date: Receipt Date: Report Date: Sample Site: X Coordinates: Y Coordinates: | Range Resources - Appalachia, LLC. Attn: Ms. Jonna Ference 380 Southpointe Blvd, Suite 300 Canonsburg, PA 15317 11/3/2011 11:45 AM 11/3/2011 4:30 PM 11/30/2011 Rush Impoundment & Well Pad 40 12 57.8 80 24 49.2 | Sample ID#: 11 44377 Sample Type: Water Sample Source: Bailed from Stream Sampler: ROBERT SMITH (Client) Client Sample ID: Kearns Pipe Upstream Purveyor: Kearns Pipe - "upstream" Address: Farrar School Rd |
|---|--|---|

| Analyte | Analyst | Analysis Date | Analysis Time | Sample Result | Units | Data Qualifier | Method | RPL |
|------------------------|---------|---------------|---------------|---------------|---------------|----------------|----------------|--------|
| Alkalinity to pH=4.5 | BH | 11/09 | n/a | 230 | mg/l as CaCO3 | n/a | SM2320B | 20 |
| Chloride | BH | 11/09 | n/a | 16.90 | mg/l | n/a | SM4500CID | 5.00 |
| Kjeldahl Nitrogen as N | SR | 11/11 | n/a | ND | mg/l | n/a | SM4500Norg-C,D | 0.3 |
| Nitrate as N | AJD | 11/10 | n/a | 2.0 | mg/l | n/a | SM4500NO3D | 1.0 |
| pH (SM) | JMC | 11/06 | n/a | 8.25 | SU | R | SM 4500H-B | 0.01 |
| Sulfate ASTM | SR | 11/07 | n/a | 38 | mg/l | D | D516-02 | 10 |
| Arsenic-ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.010 |
| Barium - ICP | GJT | 11/10 | n/a | 0.124 | mg/l | n/a | 200.7/6010 | 0.005 |
| Cadmium - ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.005 |
| Calcium - ICP | GJT | 11/10 | n/a | 97.659 | mg/l | n/a | 200.7/6010 | 0.500 |
| Chromium - ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.005 |
| Hardness | GJT | 11/10 | n/a | 291 | mg/l | n/a | SM2340B | 5 |
| Iron - ICP | GJT | 11/10 | n/a | 0.132 | mg/l | n/a | 200.7/6010 | 0.010 |
| Lead-ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.005 |
| Magnesium-ICP | GJT | 11/10 | n/a | 11.426 | mg/l | n/a | 200.7/6010 | 0.500 |
| Manganese - ICP | GJT | 11/10 | n/a | 0.043 | mg/l | n/a | 200.7/6010 | 0.005 |
| Mercury | SS | 11/11 | n/a | ND | mg/l | n/a | 245.1 | 0.0002 |
| Potassium - ICP | GJT | 11/10 | n/a | 2.719 | mg/l | n/a | 200.7/6010 | 0.500 |

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted R - Received out of recommended hold time.

Approved By: _____

Laboratory Supervisor



Report of Analysis

| | | | |
|---------------------------|--|--------------------------|--------------------------|
| Name: | Range Resources - Appalachia, LLC. Attn: Ms. Jonna Ference 380 Southpointe Blvd, Suite 300 Canonsburg, PA 15317 | Sample ID#: | 11 44377 |
| | | Sample Type: | Water |
| | | Sample Source: | Bailed from Stream |
| Sample Start Date: | 11/3/2011 11:45 AM | Sampler: | ROBERT SMITH (Client) |
| Receipt Date: | 11/3/2011 4:30 PM | Client Sample ID: | Kearns Pipe Upstream |
| Report Date: | 11/30/2011 | Purveyor: | Kearns Pipe - "upstream" |
| Sample Site: | Rush Impoundment & Well Pad | Address: | Farrar School Rd |
| X Coordinates: | 40 12 57.8 | | |
| Y Coordinates: | 80 24 49.2 | | |

| Analyte | Analyst | Analysis Date | Analysis Time | Sample Result | Units | Data Qualifier | Method | RPL |
|------------------------------|---------|---------------|---------------|---------------|-----------|----------------|-------------|-------|
| Selenium-ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.010 |
| Silver-ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.005 |
| Sodium - ICP | GJT | 11/10 | n/a | 9.658 | mg/l | n/a | 200.7/6010 | 0.500 |
| Strontium - ICP | GJT | 11/10 | n/a | 0.242 | mg/l | n/a | 200.7/6010 | 0.010 |
| E. Coli A/P | JMS | 11/03 | 5:45 PM | Present | CFU/100ml | n/a | COLILERT | 1 |
| Fecal Coliform | JMS | 11/03 | 5:00 PM | 440 | CFU/100ml | n/a | SM9222D | 10 |
| Total Coliform A/P | JMS | 11/03 | 5:45 PM | Present | CFU/100ml | n/a | COLILERT | 1 |
| Combustible Gas Index | RS | 11/03 | n/a | ND | % of LEL | n/a | Field | 0.00 |
| Propane | EAC | 11/07 | n/a | ND | mg/l | n/a | GCFID | 8.40 |
| Detergents, MBAS | LAW | 11/04 | 3:55 PM | ND | mg/l | n/a | SM5540C | 0.200 |
| Ethane | EAC | 11/07 | n/a | ND | mg/l | n/a | GCFID | 2.50 |
| Ethylene Glycol | EAC | 11/08 | n/a | ND | ug/L | n/a | SW846 8015B | 50 |
| Methane | EAC | 11/07 | n/a | ND | mg/l | n/a | GCFID | 2.50 |
| Oil and Grease - HEM | RLG | 11/09 | n/a | ND | mg/l | n/a | 1664A | 5.0 |
| pH- Field | RS | 11/03 | n/a | 8.13 | SU | n/a | SM 4500H-B | 0.00 |
| Specific Conductance | BH | 11/08 | n/a | 552 | uS/cm | n/a | SM 2510B | 1 |
| Total Dissolved Solids (TDS) | LMB | 11/09 | n/a | 308 | mg/l | n/a | SM2540C | 25 |
| Total Suspended Solids | LMB | 11/09 | n/a | ND | mg/l | n/a | SM2540D | 5 |

ND=Not Detected

Note: DEP Certification #s 32-00382
D - Indicates an identified compound in an analysis that has been diluted R - Received out of recommended hold time.

Approved By: _____

Laboratory Supervisor



Report of Analysis

Name: Range Resources - Appalachia, LLC.
Attn: Ms. Jonna Ference
380 Southpointe Blvd, Suite 300
Canonsburg, PA 15317
Sample Start Date: 11/3/2011 11:45 AM
Receipt Date: 11/3/2011 4:30 PM
Report Date: 11/30/2011
Sample Site: Rush Impoundment & Well Pad
X Coordinates: 40 12 57.8
Y Coordinates: 80 24 49.2

Sample ID#: 11 44377
Sample Type: Water
Sample Source: Bailed from Stream
Sampler: ROBERT SMITH (Client)
Client Sample ID: Kearns Pipe Upstream
Purveyor: Kearns Pipe - "upstream"
Address: Farrar School Rd

| Analyte | Analyst | Analysis Date | Analysis Time | Sample Result | Units | Data Qualifier | Method | RPL |
|------------------|---------|---------------|---------------|---------------|-------|----------------|-----------|------|
| Turbidity | DMM | 11/04 | 9:00 AM | 2 | NTU | n/a | SM2130B | 1 |
| 1) Benzene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 1.00 |
| 37) Ethylbenzene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 1.00 |
| 47) Toluene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 1.00 |
| 58) m+p-Xylene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 2.00 |
| 60) o-Xylene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 1.00 |

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted R - Received out of recommended hold time.

Approved By: _____

Laboratory Supervisor



Report of Analysis

Name: Range Resources - Appalachia, LLC.
Attn: Ms. Jonna Ference
380 Southpointe Blvd, Suite 300
Canonsburg, PA 15317
Sample Start Date: 11/3/2011 12:15 PM
Receipt Date: 11/3/2011 4:30 PM
Report Date: 11/30/2011
Sample Site: Rush Impoundment & Well Pad
X Coordinates: 40 12 57.4
Y Coordinates: 80 24 49.7

Sample ID#: 11 44378
Sample Type: Water
Sample Source: Bailed from Stream
Sampler: ROBERT SMITH (Client)
Client Sample ID: Kearns Pipe Spill Site
Purveyor: Kearns Pipe - "spill site"
Address: Farrar School Rd

| Analyte | Analyst | Analysis Date | Analysis Time | Sample Result | Units | Data Qualifier | Method | RPL |
|------------------------|---------|---------------|---------------|---------------|---------------|----------------|----------------|--------|
| Alkalinity to pH=4.5 | BH | 11/09 | n/a | 218 | mg/l as CaCO3 | n/a | SM2320B | 20 |
| Chloride | BH | 11/09 | n/a | 17.30 | mg/l | n/a | SM4500ClD | 5.00 |
| Kjeldahl Nitrogen as N | SR | 11/11 | n/a | ND | mg/l | n/a | SM4500Norg-C,D | 0.3 |
| Nitrate as N | AJD | 11/10 | n/a | 2.1 | mg/l | n/a | SM4500NO3D | 1.0 |
| pH (SM) | JMC | 11/06 | n/a | 8.10 | SU | R | SM 4500H-B | 0.01 |
| Sulfate ASTM | SR | 11/07 | n/a | 38 | mg/l | D | D516-02 | 10 |
| Arsenic-ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.010 |
| Barium - ICP | GJT | 11/10 | n/a | 0.122 | mg/l | n/a | 200.7/6010 | 0.005 |
| Cadmium - ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.005 |
| Calcium - ICP | GJT | 11/10 | n/a | 94.131 | mg/l | n/a | 200.7/6010 | 0.500 |
| Chromium - ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.005 |
| Hardness | GJT | 11/10 | n/a | 281 | mg/l | n/a | SM2340B | 5 |
| Iron - ICP | GJT | 11/10 | n/a | 0.188 | mg/l | n/a | 200.7/6010 | 0.010 |
| Lead-ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.005 |
| Magnesium-ICP | GJT | 11/10 | n/a | 11.052 | mg/l | n/a | 200.7/6010 | 0.500 |
| Manganese - ICP | GJT | 11/10 | n/a | 0.052 | mg/l | n/a | 200.7/6010 | 0.005 |
| Mercury | SS | 11/11 | n/a | ND | mg/l | n/a | 245.1 | 0.0002 |
| Potassium - ICP | GJT | 11/10 | n/a | 2.805 | mg/l | n/a | 200.7/6010 | 0.500 |

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted R - Received out of recommended hold time.

Approved By: _____

Laboratory Supervisor



Report of Analysis

| | | |
|---|--|---|
| Name: Sample Start Date: Receipt Date: Report Date: Sample Site: X Coordinates: Y Coordinates: | Range Resources - Appalachia, LLC. Attn: Ms. Jonna Ference 380 Southpointe Blvd, Suite 300 Canonsburg, PA 15317 11/3/2011 12:15 PM 11/3/2011 4:30 PM 11/30/2011 Rush Impoundment & Well Pad 40 12 57.4 80 24 49.7 | Sample ID#: 11 44378 Sample Type: Water Sample Source: Bailed from Stream Sampler: ROBERT SMITH (Client) Client Sample ID: Kearns Pipe Spill Site Purveyor: Kearns Pipe - "spill site" Address: Farrar School Rd |
|---|--|---|

| Analyte | Analyst | Analysis Date | Analysis Time | Sample Result | Units | Data Qualifier | Method | RPL |
|------------------------------|---------|---------------|---------------|---------------|-----------|----------------|-------------|-------|
| Selenium-ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.010 |
| Silver-ICP | GJT | 11/11 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.005 |
| Sodium - ICP | GJT | 11/10 | n/a | 9.860 | mg/l | n/a | 200.7/6010 | 0.500 |
| Strontium - ICP | GJT | 11/10 | n/a | 0.246 | mg/l | n/a | 200.7/6010 | 0.010 |
| E. Coli A/P | JMS | 11/03 | 5:45 PM | Present | CFU/100ml | n/a | COLILERT | 1 |
| Fecal Coliform | JMS | 11/03 | 5:00 PM | 450 | CFU/100ml | n/a | SM9222D | 10 |
| Total Coliform A/P | JMS | 11/03 | 5:45 PM | Present | CFU/100ml | n/a | COLILERT | 1 |
| Combustible Gas Index | RS | 11/03 | n/a | ND | % of LEL | n/a | Field | 0.00 |
| Propane | EAC | 11/07 | n/a | ND | mg/l | n/a | GCFID | 8.40 |
| Detergents, MBAS | LAW | 11/04 | 3:55 PM | ND | mg/l | n/a | SM5540C | 0.200 |
| Ethane | EAC | 11/07 | n/a | ND | mg/l | n/a | GCFID | 2.50 |
| Ethylene Glycol | EAC | 11/08 | n/a | ND | ug/L | n/a | SW846 8015B | 50 |
| Methane | EAC | 11/07 | n/a | ND | mg/l | n/a | GCFID | 2.50 |
| Oil and Grease - HEM | RLG | 11/09 | n/a | ND | mg/l | n/a | 1664A | 5.0 |
| pH- Field | RS | 11/03 | n/a | 8.13 | SU | n/a | SM 4500H-B | 0.00 |
| Specific Conductance | BH | 11/08 | n/a | 535 | uS/cm | n/a | SM 2510B | 1 |
| Total Dissolved Solids (TDS) | LMB | 11/09 | n/a | 305 | mg/l | n/a | SM2540C | 25 |
| Total Suspended Solids | LMB | 11/09 | n/a | 5 | mg/l | n/a | SM2540D | 5 |

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted R - Received out of recommended hold time.

Approved By: _____

Laboratory Supervisor



Report of Analysis

| | | |
|---|--|---|
| Name: Sample Start Date: Receipt Date: Report Date: Sample Site: X Coordinates: Y Coordinates: | Range Resources - Appalachia, LLC. Attn: Ms. Jonna Ference 380 Southpointe Blvd, Suite 300 Canonsburg, PA 15317 11/3/2011 12:15 PM 11/3/2011 4:30 PM 11/30/2011 Rush Impoundment & Well Pad 40 12 57.4 80 24 49.7 | Sample ID#: 11 44378 Sample Type: Water Sample Source: Bailed from Stream Sampler: ROBERT SMITH (Client) Client Sample ID: Kearns Pipe Spill Site Purveyor: Kearns Pipe - "spill site" Address: Farrar School Rd |
|---|--|---|

| Analyte | Analyst | Analysis Date | Analysis Time | Sample Result | Units | Data Qualifier | Method | RPL |
|------------------|---------|---------------|---------------|---------------|-------|----------------|-----------|------|
| Turbidity | DMM | 11/04 | 9:00 AM | 4 | NTU | n/a | SM2130B | 1 |
| 1) Benzene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 1.00 |
| 37) Ethylbenzene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 1.00 |
| 47) Toluene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 1.00 |
| 58) m+p-Xylene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 2.00 |
| 60) o-Xylene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 1.00 |

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted R - Received out of recommended hold time.

Approved By: _____

Laboratory Supervisor



Report of Analysis

Name: Range Resources - Appalachia, LLC.
 Attn: Ms. Jonna Ference
 380 Southpointe Blvd, Suite 300
 Canonsburg, PA 15317
Sample Start Date: 11/3/2011 12:45 PM
Receipt Date: 11/3/2011 4:30 PM
Report Date: 11/30/2011
Sample Site: Rush Impoundment & Well Pad
X Coordinates: 40 12 46.8
Y Coordinates: 80 25 06.7

Sample ID#: 11 44380
Sample Type: Water
Sample Source: Bailed from Stream
Sampler: ROBERT SMITH (Client)
Client Sample ID: Kearns Pipe Downstream
Purveyor: Kearns Pipe - "downstream"
Address: Farrar School Rd

| Analyte | Analyst | Analysis Date | Analysis Time | Sample Result | Units | Data Qualifier | Method | RPL |
|------------------------|---------|---------------|---------------|---------------|---------------|----------------|----------------|--------|
| Alkalinity to pH=4.5 | BH | 11/09 | n/a | 217 | mg/l as CaCO3 | n/a | SM2320B | 20 |
| Chloride | BH | 11/09 | n/a | 18.20 | mg/l | n/a | SM4500CID | 5.00 |
| Kjeldahl Nitrogen as N | SR | 11/11 | n/a | ND | mg/l | n/a | SM4500Norg-C,D | 0.4 |
| Nitrate as N | AJD | 11/10 | n/a | 2.1 | mg/l | n/a | SM4500NO3D | 1.0 |
| pH (SM) | JMC | 11/06 | n/a | 8.13 | SU | R | SM 4500H-B | 0.01 |
| Sulfate ASTM | SR | 11/07 | n/a | 40 | mg/l | D | D516-02 | 10 |
| Arsenic-ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.010 |
| Barium - ICP | GJT | 11/10 | n/a | 0.121 | mg/l | n/a | 200.7/6010 | 0.005 |
| Cadmium - ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.005 |
| Calcium - ICP | GJT | 11/10 | n/a | 96.661 | mg/l | n/a | 200.7/6010 | 0.500 |
| Chromium - ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.005 |
| Hardness | GJT | 11/10 | n/a | 289 | mg/l | n/a | SM2340B | 5 |
| Iron - ICP | GJT | 11/10 | n/a | 0.191 | mg/l | n/a | 200.7/6010 | 0.010 |
| Lead-ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.005 |
| Magnesium-ICP | GJT | 11/10 | n/a | 11.639 | mg/l | n/a | 200.7/6010 | 0.500 |
| Manganese - ICP | GJT | 11/10 | n/a | 0.046 | mg/l | n/a | 200.7/6010 | 0.005 |
| Mercury | SS | 11/11 | n/a | ND | mg/l | n/a | 245.1 | 0.0002 |
| Potassium - ICP | GJT | 11/10 | n/a | 2.738 | mg/l | n/a | 200.7/6010 | 0.500 |

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted R - Received out of recommended hold time.

Approved By:

Laboratory Supervisor



Report of Analysis

| | | | |
|---------------------------|--|--------------------------|----------------------------|
| Name: | Range Resources - Appalachia, LLC. Attn: Ms. Jonna Ference 380 Southpointe Blvd, Suite 300 Canonsburg, PA 15317 | Sample ID#: | 11 44380 |
| | | Sample Type: | Water |
| | | Sample Source: | Bailed from Stream |
| Sample Start Date: | 11/3/2011 12:45 PM | Sampler: | ROBERT SMITH (Client) |
| Receipt Date: | 11/3/2011 4:30 PM | Client Sample ID: | Kearns Pipe Downstream |
| Report Date: | 11/30/2011 | Purveyor: | Kearns Pipe - "downstream" |
| Sample Site: | Rush Impoundment & Well Pad | Address: | Farrar School Rd |
| X Coordinates: | 40 12 46.8 | | |
| Y Coordinates: | 80 25 06.7 | | |

| Analyte | Analyst | Analysis Date | Analysis Time | Sample Result | Units | Data Qualifier | Method | RPL |
|------------------------------|---------|---------------|---------------|---------------|-----------|----------------|-------------|-------|
| Selenium-ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.010 |
| Silver-ICP | GJT | 11/10 | n/a | ND | mg/l | n/a | 200.7/6010 | 0.005 |
| Sodium - ICP | GJT | 11/10 | n/a | 10.161 | mg/l | n/a | 200.7/6010 | 0.500 |
| Strontium - ICP | GJT | 11/10 | n/a | 0.249 | mg/l | n/a | 200.7/6010 | 0.010 |
| E. Coli A/P | JMS | 11/03 | 5:45 PM | Present | CFU/100ml | n/a | COLILERT | 1 |
| Fecal Coliform | JMS | 11/03 | 5:00 PM | 560 | CFU/100ml | n/a | SM9222D | 10 |
| Total Coliform A/P | JMS | 11/03 | 5:45 PM | Present | CFU/100ml | n/a | COLILERT | 1 |
| Combustible Gas Index | RS | 11/03 | n/a | ND | % of LEL | n/a | Field | 0.00 |
| Propane | EAC | 11/07 | n/a | ND | mg/l | n/a | GCFID | 8.40 |
| Detergents, MBAS | LAW | 11/04 | 3:55 PM | ND | mg/l | n/a | SM5540C | 0.200 |
| Ethane | EAC | 11/07 | n/a | ND | mg/l | n/a | GCFID | 2.50 |
| Ethylene Glycol | EAC | 11/08 | n/a | ND | ug/L | n/a | SW846 8015B | 50 |
| Methane | EAC | 11/07 | n/a | ND | mg/l | n/a | GCFID | 2.50 |
| Oil and Grease - HEM | RLG | 11/09 | n/a | ND | mg/l | n/a | 1664A | 5.0 |
| pH- Field | RS | 11/03 | n/a | 8.13 | SU | n/a | SM 4500H-B | 0.00 |
| Specific Conductance | BH | 11/08 | n/a | 534 | uS/cm | n/a | SM 2510B | 1 |
| Total Dissolved Solids (TDS) | LMB | 11/09 | n/a | 294 | mg/l | n/a | SM2540C | 25 |
| Total Suspended Solids | LMB | 11/09 | n/a | ND | mg/l | n/a | SM2540D | 5 |

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted R - Received out of recommended hold time.

Approved By: _____

Laboratory Supervisor



Report of Analysis

| | | | |
|---------------------------|--|--------------------------|----------------------------|
| Name: | Range Resources - Appalachia, LLC. Attn: Ms. Jonna Ference 380 Southpointe Blvd, Suite 300 Canonsburg, PA 15317 | Sample ID#: | 11 44380 |
| | | Sample Type: | Water |
| | | Sample Source: | Bailed from Stream |
| Sample Start Date: | 11/3/2011 12:45 PM | Sampler: | ROBERT SMITH (Client) |
| Receipt Date: | 11/3/2011 4:30 PM | Client Sample ID: | Kearns Pipe Downstream |
| Report Date: | 11/30/2011 | Purveyor: | Kearns Pipe - "downstream" |
| Sample Site: | Rush Impoundment & Well Pad | Address: | Farrar School Rd |
| X Coordinates: | 40 12 46.8 | | |
| Y Coordinates: | 80 25 06.7 | | |

| Analyte | Analyst | Analysis Date | Analysis Time | Sample Result | Units | Data Qualifier | Method | RPL |
|------------------|---------|---------------|---------------|---------------|-------|----------------|-----------|------|
| Turbidity | DMM | 11/04 | 9:00 AM | 2 | NTU | n/a | SM2130B | 1 |
| 1) Benzene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 1.00 |
| 37) Ethylbenzene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 1.00 |
| 47) Toluene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 1.00 |
| 58) m+p-Xylene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 2.00 |
| 60) o-Xylene | JG | 11/04 | n/a | ND | ug/L | n/a | 624/8260B | 1.00 |

Comments:

ND=Not Detected

Note:

DEP Certification #s 32-00382

D - Indicates an identified compound in an analysis that has been diluted R - Received out of recommended hold time.

Approved By: _____

Laboratory Supervisor

From: Zach Lieb [mailto:zlieb@weavertown.com]
Sent: Wednesday, November 16, 2011 2:42 PM
To: Jeremy Matinko
Cc: Andrew Greer; Daryl Heiser
Subject: Kearns Pipe Post- Ex results

Hi Jeremy,

Here are the Sodium and Chloride preliminary results for the Post-Excavation samples at the Kearns pipeline along Farrar School Road. I haven't received the entire list of analytical back yet, so this is just an fyi. I have also attached a site map for clarification.

| | | | |
|--|--|--|--|
| S-01: Na - ND <410 mg/kg CL - 4.1 mg/L | S-02: Na - ND <192mg/kg Cl - 3.2 mg/L | S-03: Na - 279 mg/Kg Cl - 15.8 mg/L | S-04: Na - ND <169 mg/kg Cl - 4.6 mg/L |
| S-05: Na - ND <227 mg/kg Cl - 3.7 mg/L | S-06: Na - ND <176 mg/kg Cl - ND <1.3 mg/L | S-07: Na - ND <171 mg/kg Cl - 6.1 mg/L | |
| B-01: Na - ND <610 mg/kg Cl - ND <3.0 mg/L | B-02: Na - ND <184 mg/kg Cl - ND <3.0 mg/L | | |

The sodium seems fine, but the only thing that is concerning to me is the Chloride level on S-03. This was collected right next to the stream where it would be nearly impossible to dig more. I'm thinking the high level was due to the soil being heavily saturated in that area. Also in retrospect, I should have taken a background sample on the other side of the stream to compare S-03 to since the soil was a gritty wet silt, very unlike the cow field which was a dry, brown silty clay.

Let me know if you have any questions.

Thanks,
Zach

Project Coordinator
Weavertown Group
2 Dorrington Road, Carnegie, PA 15106
Phone: 724-746-4850
Fax: 412-429-0219



24
hours



WEG

24

Water Quality Engineering & Consulting, Inc.

Surface Water Flow Map

Project Number: E12212

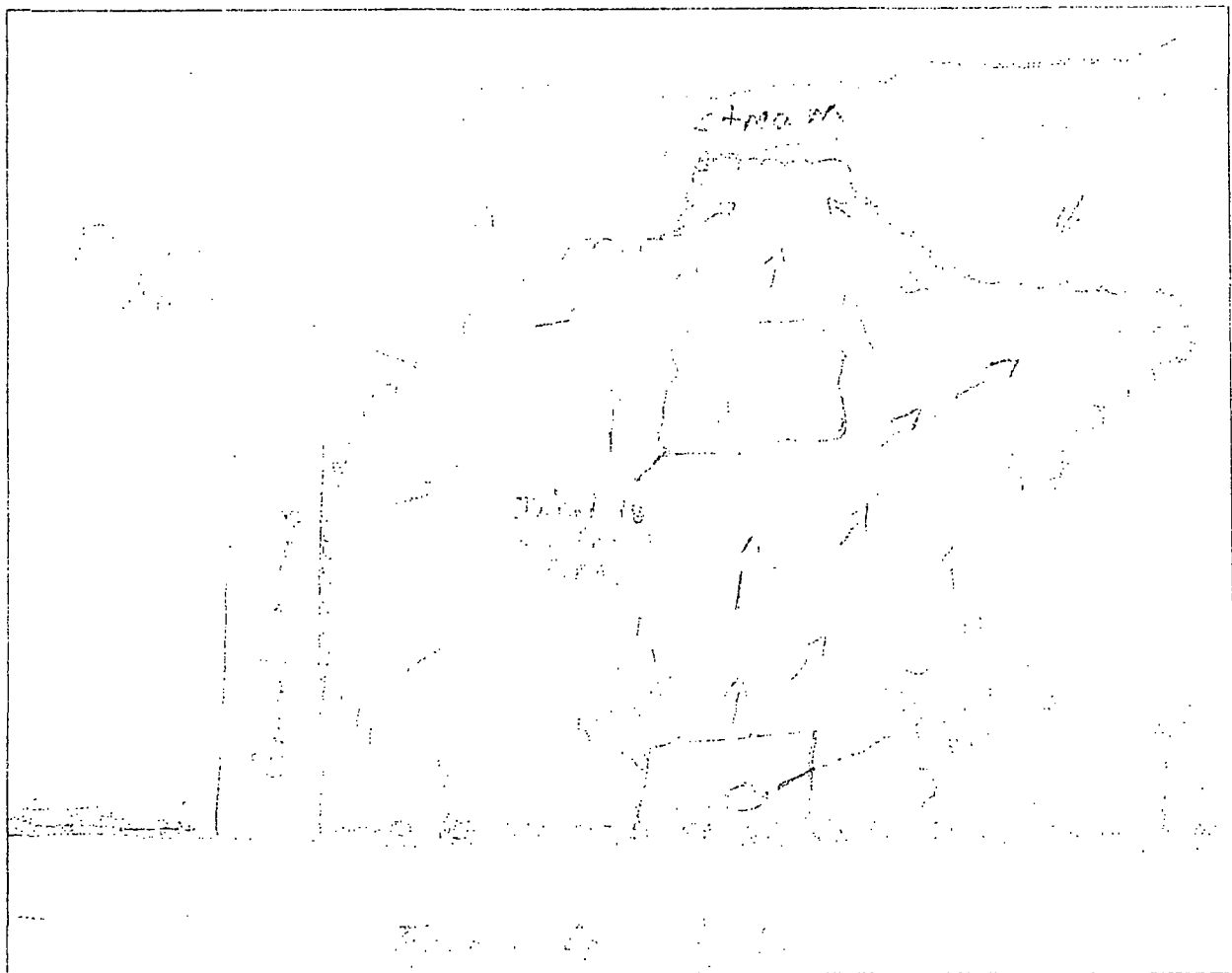
Date: 11/7/2011

Site Name: Kearns Pipeline

Site Location: Off Farrar School Road close to Kearns Well Site and Fox Rd Avella, PA 15312

Additional Notes: Map is not drawn to scale

Site Map:



Soil Sample Collection Map

Project Number: E12212

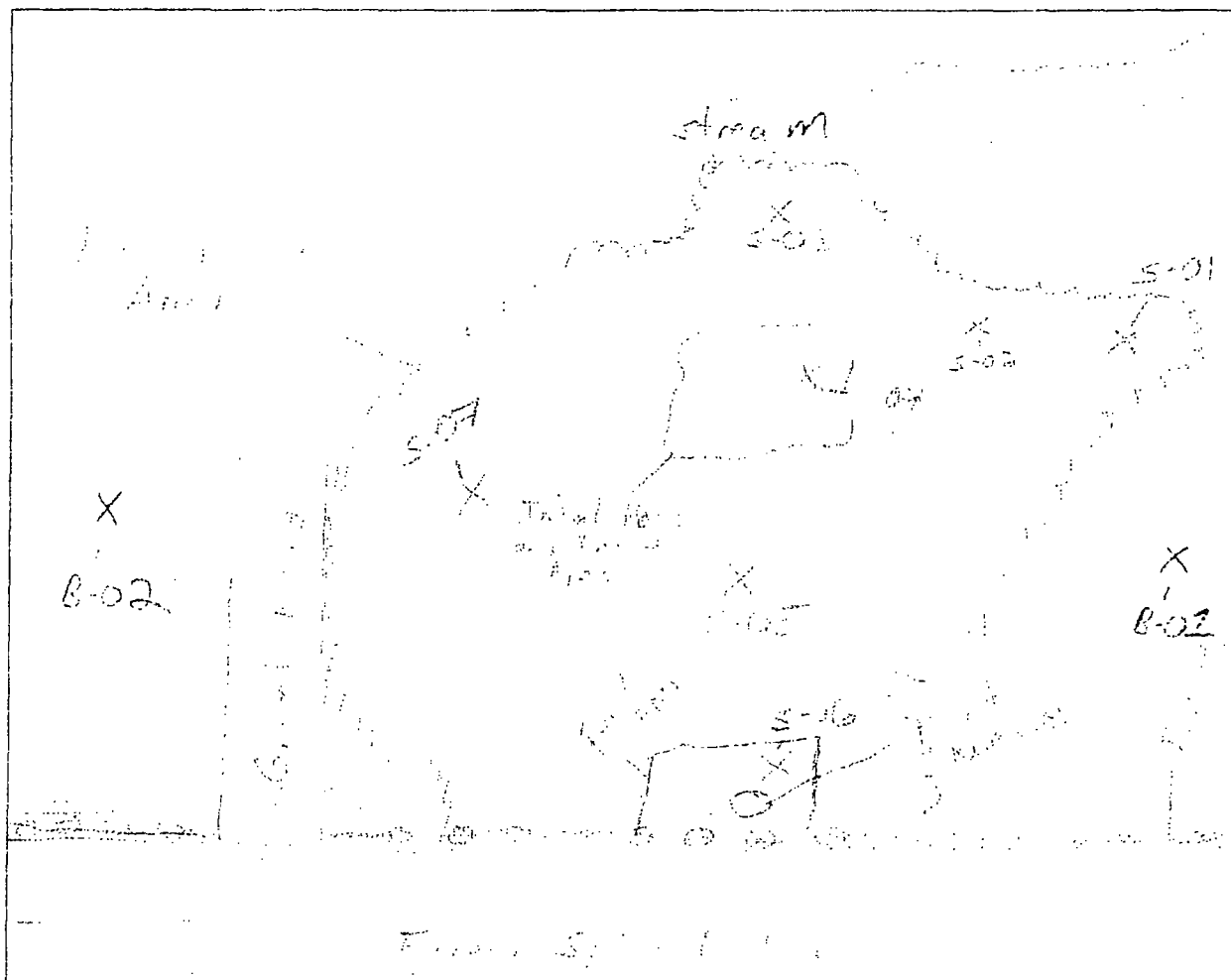
Date: 11/7/2011

Site Name: Kearns Pipeline

Site Location: Off Farrar School Road close to Kearns Well Site and Fox Rd Avella, PA 15312

Additional Notes: Map is not drawn to scale

Site Map:



CASPER COLOSIMO

Utility Incident Log

| | | |
|--|------------------------------------|---|
| Project Name <i>RUSH to KEARNS</i> | | Project No. <i>1001112</i> |
| Address of Incident <i>FARRIS School RD crossing #1</i> | | Phone Number of PA One Call <i>811</i> |
| Phone Office | Time of Incident <i>9:17 AM</i> | Date <i>10/31/2011</i> |

Was Utility Located? ☐ Yes ☐ No

Locate Number _____

Incident Locate Number _____

| | | |
|--|---|----------------------------|
| Type of Utility <i>TEMP WATER LINE</i> | Date Located <i>NA</i> | Located By <i>NA</i> |
| Utility Size <i>10"</i> | Depth Below Grade <i>ABOVE GRADE</i> | Foreman <i>ART RUST</i> |
| Operator <i>ANTHONY HERMAN</i> Labor <i>JIM WETZEL JR</i> | | |
| Document incident, take photographs and draw a sketch of the site and any damaged area. Include in the drawing, location of paint marks and the location of the utility line that was contacted. Note unusual circumstances or conditions such as fill material or depth of utility line. Speak with the field technician performing the repairs. Be cooperative and explain how the damage occurred. Be honest. He/She makes the decision who is at fault for the damage. Prior to leaving the site, attempt to get the utility representative and the locating company representative to make an on site decision of fault. | | |

NOTIFICATION OF BUILDING OCCUPANTS

In case of an emergency list occupants notified and other steps taken.

| | |
|--|--|
| Occupant's Name <i>RANGE RESOURCES</i> | Occupant's Name <i>HIGHLAND WATER</i> |
| Occupant's Name <i>RED OAK</i> | Occupant's Name <i>WEAVER TOWN EVER. group</i> |

REMARKS

JUSTIN WEIKER WAS CALLED AT 9:18 AM to respond to ER. Range was on site at 9:40

UTILITY REPAIR CREW NOTIFICATION & INFORMATION

| | | |
|---|---|-----------------------|
| Utility Notification Time: <i>9:18</i> | Utility Person Contacted: <i>JUSTIN WEIKER</i> | Phone # <i>IF</i> |
| Technician Name | Time Utility Arrived <i>9:40</i> | Time Utility Finished |

| | |
|---|-----------------------------|
| Damages Billed to: Contractor/Utility/Locator | Estimated Amount of Damages |
|---|-----------------------------|

REMARKS

See BACK Page

PLACE LOCATION DRAWING OR PICTURES ON THE BACK OF THIS LOG

WITNESS LIST

Get the name, address and phone number of any witnesses to the incident (In case incident goes to court)

| Witness Name | Witness Address | Witness Phone Number |
|-----------------|-----------------|----------------------|
| Anthony Herman | | |
| Jim Wetzell JR | | |
| JASON Beagman | | |
| SENN | | |
| JOSH SNATCHKO | | |
| | | |
| | | |
| | | |
| | | |

Damage Prevention Coordinator



Job Site Foreman

Date

Copy to Office
Copy to Jobsite Foreman

REMARKS

CONTRACTOR HAD CREWS ON DIFFERENT PARTS OF the Job that Day. The crew was on the KERRIS side OF FARRIS School RD crossing #1. OPERATOR TRIED to MOVE PIPE WITH BACK HOE BREAKING OFF Bell. Crew DID NOT ASK to move PIPE. JOB SUPERVISOR ART RUST WAS ON RUSH side ON TOP OF HILL.

JOB INSPECTOR CHARLIE VONSCHRITZ WAS WITH A FENCE CONTRACTOR AT CROSSING #2 OF FARRIS School RD.

LABOR JIM WETZEL JR CALLED ART RUST IN RETURNED CALLED CHARLIE VONSCHRITZ, WHOM CALLED JUSTIN WELKER. CREW REMOVED BROKE PIPE AND REPAIR LINE. RANGE WAS ON SITE AT 9:40 AM

TIME LINE

9:17 CONTRACTOR BROKE PIPE, STARTED DUGGING HOLE TO CATCH WATER

9:18 CALLED RANGE

9:30 CONTRACTOR STARTED TO REPAIR LINE

9:40 RANGE ON SITE

9:45 TESTED SOIL AND STREAM

10:10 PLACED FILTER SOCK AT STREAM

11:10 VAC TRUCKS ON SITE START CLEAN UP

12:06 STARTED ACCESS RD FOR CLEAN UP

12:30 D.E.P. ON SITE

12:38 PLACED FILTER SOCK AROUND SPILL

2:30 P.A. FISH AND GAME ON SITE

4:00 VAC TRUCKS OFF SITE

4:05 CONTRACTOR STARTED TO REMOVE SOIL FROM AREA

7:30 STOP REMOVING SOIL

8:00 COVERED SPILL AREA WITH PLASTIC

A WEEKLY SAFETY MEETING IS NOW IN PLACE ABOUT
TEMP WATER LINE

RESULT OF DRUG TEST AVAIL. AT END OF WEEK FOR

OPERATOR ANTHONY HERMAN

LABOR JIM WETZEL

J. S. A

Site *RUSH to Kearn's*

Date: *10/31*

Foremen: *Art Rust*

Task: *Placing 16" & 6" water line*

Potential hazards

Recommend actions

Basic step of task to be performed

Step 1 *trenching*

- 1 *Cave in*
- 2 *Falls*
- 3 *Slips*
- 4 *Run overs*

- 1 *Shoring*
- 2 *Ladder*
- 3 *Know ground ahead*
- 4 *Stay away from moving eq.*

Step 2 *Fusing*

- 1 *Burns*
- 2 *Hand injuries*
- 3 *Back injuries*
- 4 *Rigging*

- 1 *Wear PPE*
- 2 *Keep limb clear of moving parts*
- 3 *Use equipment to lift heavy loads*
- 4 *Keep rigging clean & in good shape*

Step 3 *Placing P.P.E*

- 1 *Rigging*
- 2 *Crushing*
- 3 *Run overs*
- 4 *Pinch points*

- 1 *Keep rigging clean & in shape*
- 2 *Stay away from raised loads*
- 3 *Keep clear of equipment*
- 4 *Keep out of pinch points*

Step 4 *Back filling*

- 1 *Run overs*
- 2 *Fall*
- 3 *Cave in*
- 4 *Crushing*

- 1 *Stay away from moving eq.*
- 2 *Use ladder*
- 3 *Use shoring if needed.*
- 4 *Stay away from raised loads.*